

**Appl. No.** : **10/608,598**  
**Filed** : **June 27, 2003**

## **REMARKS**

Claims 1, 6, 13-24 have been amended, and Claims 1-31 remain pending. The amendment to Claims 1, 6, 13-24 finds support throughout the specification, see, e.g., paragraphs [0026] as originally filed. Claims 25-31 have been withdrawn as drawn to non-elected subject matter.

### **Election/Restriction**

The Examiner has withdrawn Claims 25-31 from consideration as being directed to a non-elected invention. Applicants respectfully request that upon allowance of Claim 1, the method Claims 25-31 be rejoined.

### **Rejections under 35 USC §103 – Claims 1-6**

The Examiner rejected Claims 1-6 as obvious over Pan in view of Huang (U.S. Pat. No. 5,695,418). According to the Examiner, Pan discloses an antimicrobial grip comprising an elastomer with an inorganic antimicrobial agent in the form of tin bonded to a textile layer, but fails to teach an elongated strip or a polyurethane elastomer with closed pores that extend vertically in a direction normal to a longitudinal axial of a strip. The Examiner suggested that in view of Huang, it would have been obvious to modify the grip of Pan to have an elongated strip in order to utilize the advantages of Pan.

Applicant respectfully disagrees, but has amended Claims 1, 6, 13-24 to more clearly define the invention. Pan discloses an antibacterial agent as a chemical solvent that is to be mixed in with PU resins and the DMF solvent for the manufacturing of grip rubber. After the amendment to the claims, Applicant claims a powdered inorganic antimicrobial agent that, unlike Pan's antibacterial solvent (see e.g., Pan Claim 1), is not miscible with a solution of PU and DMF. Pan claims only one antibacterial solvent, and it does not suggest that an antibacterial agent in the form of powder may also be used to manufacture the desired grip rubber. Huang does not teach the use of any antimicrobial agent. Not only is there no express teaching and no motivation in Pan and/or Huang to modify the antibacterial solvent, but the skilled artisan would derive no expectation of success from the cited references in substituting a powdered inorganic antimicrobial agent for the disclosed antibacterial solvent. Since Claims 6 and 13-24 depend from Claim 1, Applicant respectfully requests withdrawal of the rejection of Claims 1, 6 and 13-24.

**Appl. No.** : **10/608,598**  
**Filed** : **June 27, 2003**

**Rejections under 35 USC §103 – Claims 7-8, 16, 19 and 22**

The Examiner also rejected Claims 7-8, 16, 19 and 22 as obvious over Pan in view of Huang and further in view of Terry (U.S. Pat. No. 6,716,895). Terry was said to disclose adding a silver salt to liquefied polymeric resin prior to molding, producing polyurethane, and using DMF to produce an antimicrobial composition. However, unlike Applicant's powdered inorganic antimicrobial agents, the silver salts of Terry are colloids (see e.g., Title) formed due to differences in solubility of the salts in different solvents. The chemical arts are well known for being unpredictable. It is extremely difficult to predict with any degree of certainty that a substitution of a silver-based powdered inorganic antimicrobial agent for colloidal silver salts would result in a final product with antimicrobial activity that can be incorporated into a polyurethane layer bonded to a layer of felt. Furthermore, DMF was used to form salt colloids within the hydrophobic polymer composition in Terry, and was not used in conjunction with hydrophilic polymer such as polyurethane (see Col. 6, Lns. 40-50). Therefore Terry does not teach adding the powdered inorganic antimicrobial agents to a solution of polyurethane and DMF.

As discussed above, the combination of Pan and Huang fails to teach Applicant's grip comprising a powdered inorganic antimicrobial agent as disclosed in Claim 1. Terry does not teach any silver-based powdered antimicrobial agent. Therefore the cited combination of Pan, Huang and Terry still fail to teach each and every element of the claimed invention, e.g., a grip comprising a silver-based powdered inorganic antimicrobial agent, as recited in Claims 16, 19 and 22. Since Claims 7-8 depend from Claim 1, Applicant respectfully requests withdrawal of the rejection of Claims 7-8, 16, 19 and 22.

**Rejections under 35 USC §103 – Claims 9-11 and 13-15**

Claims 9-11 and 13-15 are rejected as being obvious over Pan in view of Huang and Terry and further in view of Yasui (U.S. Pat. No. 5,960,578). The Examiner argued that Yasui discloses a urethane material for a fishing pole grip having antibacterial and antifungal material in the form of inorganic material of silver in a porous silica-alumina. However there is no motivation to substitute the insoluble silver/carrier composition disclosed by Yasui for use in thermally-molded thermoplastics, for the organometallic antimicrobial solvent taught by Pan, to arrive at Applicant's grip material. Indeed, the properties of the organometallic agent as a

**Appl. No.** : **10/608,598**  
**Filed** : **June 27, 2003**

solvent (e.g., miscible in DSM and PU) is touted by Pan as being important to the formulation – thus, teaching away from such a substitution. Accordingly, one of skill in the art would find no motivation in the references to substitute an insoluble silver/carrier composition for an organometallic solvent.

Moreover, because of the very different chemical properties of the organometallic solvent and the powdered inorganic antimicrobial compound, the very different manufacturing processes and conditions, and the unpredictability of biologically active compounds, even if motivated, a skilled artisan would have no expectation of success. Thus, it was not until Applicant made and showed the antimicrobial effectiveness of a grip material comprising an elastomer layer having a powdered inorganic antimicrobial agent dispersed therein, that one skilled in the art could derive any expectation of success in making Applicant's grip. Therefore, Applicant respectfully asserts that Yasui in combination with Pan, Huang and Terry fails to render obvious an elastomer layer comprising a powdered inorganic antimicrobial agent, and requests withdrawal of the rejection of Claims 9-11 and 13-15.

#### **Rejections under 35 USC §103 – Claims 12**

The Examiner rejected Claims 12 as obvious over Pan in view of Huang, Terry and Yasui, and further in view of applicant's disclosure. The Examiner added Applicant's own disclosure to provide the missing teaching of one of Applicant's preferred inorganic antimicrobial agents. Applicant respectfully points out that Claim 12 is dependent on Claim 1, which is non-obvious over Pan in view of Huang, Terry and Yasui for all of the reasons detailed above. Accordingly, the addition of montmorillonite cannot cure the defect in the Examiner's case of obviousness of Claim 1, as all of the references combined still fail to render obvious a grip comprising an elastomer layer having a powdered inorganic antimicrobial agent dispersed therein. Thus, Applicant respectfully requests withdrawal of the rejection of Claim 12.

#### **Rejections under 35 USC §103 – Claims 17-18, 20-21 and 23-24**

The Examiner also rejected Claims 17-18, 20-21 and 23-24 as obvious over Pan in view of Huang and Terry and further in view of Yasui and applicant's disclosure. Because Claims 17-18, 20-21 and 23-24 depend from independent Claims 16, 19 and 22, respectively, which are patentable over Pan in view of Huang and in further view of Terry for the reasons articulated above, the addition of applicant's disclosure and Yasui, which teaches silver in a porous carrier

**Appl. No.** : **10/608,598**  
**Filed** : **June 27, 2003**

for use in a thermally-molded thermoplastic, fails to cure the defect in the Examiner's case of obviousness against the independent claims. Accordingly, Applicant respectfully requests withdrawal of the rejection of Claims 17-18, 20-21 and 23-24.

**Rejections under 35 USC §103 – Claims 1-2, 4, 6-11, 13-16, 19 and 22**

The Examiner rejected Claims 1-2, 4, 6-11, 13-16, 19 and 22 as obvious over Yeh (U.S. Pat. No. 5,624,116) in view of Yasui. Yeh, like Huang (discussed above), discloses a grip formed of an elongated strip comprising a polyurethane layer bonded to a felt layer. It mentions without further discussion that other suitable elastomeric grip materials may be used, such as natural rubber, thermoplastic rubber, thermoplastic urethane, or thermoplastic olefin (see e.g., col 2, lines 52-54). Yasui discloses thermally-molded thermoplastic resins for fishing pole grips, etc. having 0.2 to 3% by weight antibacterial and antifungal material in the form of inorganic material of silver in a porous silica-alumina. According to the Examiner, it would have been obvious to modify the grip of Yeh by adding the antimicrobial agent of Yasui at about 2% concentration. Applicant respectfully disagrees.

Yeh teaches that the grip is made by "first forming the layer 12 [polyurethane layer] and backing 14 [felt layer] in a conventional manner. For example, a thin layer of polyurethane is formed over a sheet of felt, which is then cut into strips of a size shown." (Col. 3, lines 53-56). Yeh does not teach that it would be desirable or advantageous to incorporate agents having antibacterial or antifungal property into their polyurethane layer for use in sports racquets—nor does Yeh identify a problem to be solved (e.g., microbial infestation on grip materials). Thus, there is no motivation in Yeh to look to Yasui for its teaching related to the inorganic antimicrobial silver. Likewise, Yasui does not teach that it would be desirable or advantageous to use a thin layer of polyurethane (i.e., not a thermally-molded thermoplastic product). Accordingly, there is nothing in either reference to motivate the skilled practitioner to combine the teachings. Moreover, even assuming *arguendo* that one skilled in the art would be motivated to make the combination, there would be no expectation of success in combining Yeh's polyurethane layer with Yasui's inorganic antimicrobial silver, since the silver compound in Yasui was only shown to be effective when combined with thermoplastic resins and then molded (e.g., extrusion or foam molding processes) at high temperatures into the shape of the finished grip. The thermal molding process in Yasui is not physically compatible with the formation of a

**Appl. No.** : **10/608,598**  
**Filed** : **June 27, 2003**

polyurethane/felt tape that can be wound onto a sports raquet—like that disclosed in Yeh. Thus, one of skill in the art would have no guidance as to how to combine the teachings (i.e., how to add inorganic antimicrobial silver to a thin layer of polyurethane), and no expectation of success if such a combination were managed. Accordingly, Applicant respectfully requests withdrawal of the rejection of Claims 1-2, 4, 6-11, 13-16, 19 and 22 as obvious over Yeh in view of Yasui.

**Rejections under 35 USC §103 – Claims 12, 17-18, 20-21 and 23-24**

The Examiner also rejected Claim 12, 17-18, 20-21 and 23-24 as obvious over Yeh in view of Yasui and in further view of Applicant's disclosure. Because Claim 12, 17-18, 20-21, and 23-24 depend from independent Claims 1, 16, 19, and 22, respectively, which are patentable over Yeh in view of Yasui for the reasons articulated above, the addition of Applicant's disclosure of montmorillonite fails to render these claims unpatentable. Accordingly, Applicant respectfully requests withdrawal of the rejection of Claims 12, 17-18, 20-21 and 23-24.

**CONCLUSION**

In view of the above remarks, Applicant respectfully requests withdrawal of rejections on the claims and assert that the present application is in condition for allowance. Should there be any questions concerning this application, the Examiner is respectfully requested to contact the undersigned attorney at the telephone number appearing below.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: 11/14/05

By:   
Mark R. Benedict  
Registration No. 44,531  
Attorney of Record  
Customer No. 20,995  
(949) 760-0404